



# Environmental Change, Natural Disasters and Stability in Central America and the Caribbean

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## GENERAL OVERVIEW

Threats to state and human security result from a variety of areas and issues such as criminal gangs, political and military sources, as well as from social, economic and environmental issues. A wide array of factors contribute to making people feel insecure, from the proliferation of small arms and drug trafficking, to transnational threats like water pollution, natural disasters, the spread of diseases and climate change.

Because it is closely associated with heat and water, climate change is already having diverse impacts in Central America and the Caribbean, including: more powerful storms; altered river flows; changes in groundwater recharge; landslides; more intense floods; and longer droughts. The inability to predict and manage the quantity and quality of water, and the vulnerabilities of states and regions to the impacts of droughts, floods and climatic variability impose large costs on many economies in the region.

In Central America, the water situation differs on each coast. The El Niño phenomenon causes severe drought on the already dry Pacific Coast of Central America impacting economies, and operation of the Panama Canal. Conversely, on the Atlantic side of the Caribbean, the climate situation is wetter and more vulnerable to hurricane events. Environmental impacts also influence human health, biodiversity, and agriculture, as 85% of natural disasters are water-linked. Therefore, the region must manage by innovating and adapting to these climate extremes. One example is a warning system developed with the help of the National Oceanographic and Atmospheric Administration after Hurricane Mitch.\*

According to Rolain Borel, Head of the Department of Environment, Peace and Security, University for Peace in San Jose, Costa Rica, Environmental Security is related to Peace. Its analysis allows us to better understand the impacts of environmental stress, climate change and the occurrence of natural disasters on human livelihoods, health and the fulfillment of basic needs, and on the sustainability and resilience of fragile ecosystems. The major environmental and social threats in the Central American and Caribbean region are both natural and man-made in nature. Natural disasters include increased frequency of more severe hurricanes, floods, and droughts. The detrimental manmade disasters in the region include deforestation, land use changes, landslides, river sedimentation, and weak water infrastructure. These phenomena increase vulnerability particularly for the poorer people which pre-dominate the area, most of whom are tied to the soil or to fishing in order to make a living. In addition natural and man-made disasters put increased pressure on coastline ecosystems by not only further depleting marine resources but also by negatively impacting tourism, which is a major industry in the region.

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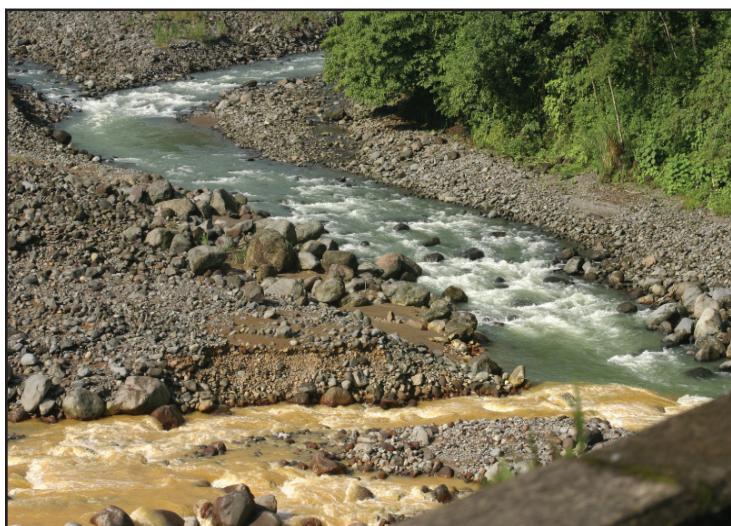
\* Campos, Max. Director, Regional Committee of Water Resources-CRRH, Central American Integration System-SICA, 2009.

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In 2009 then Director of National Intelligence, Admiral Dennis Blair, made the link between security and climate change very clear: "Climate change, energy, global health and environmental security are often intertwined, and while not traditionally viewed as 'threats' to U.S. national security, they will affect Americans in major ways.... Such a complex and unprecedented syndrome of problems could cause outright state failure, or weaken pivotal states counted on to act as anchors of regional stability." It is important for the region to find ways to adapt to the effects of climate change, become resilient and substitute the vision of disaster preparedness with a vision for reducing risks and vulnerabilities.

## COSTA RICA ROUNDTABLE

Recognizing the importance of these issues to regional security, the United States Southern Command (SOUTHCOM) Command Engineer office and the DOS Regional Environmental Hub for Central America and the Caribbean co-sponsored a Roundtable on Environmental Security and Natural Disasters in San Jose, Costa Rica with the support of the U.S. Army War College Center for Strategic Leadership. The purpose of the roundtable was to gather together partner nation experts from Costa Rica and Central America to identify the most important regional environmental security and natural disaster preparedness issues and determine their relationship to stability and security in the region. The event took place on July 30, 2009, at the Conference Room of the U.S. Embassy in San Jose.



SOUTHCOM and the Embassy Environmental Hub objective was to support U.S. interagency, national and regional environmental security efforts, share experiences and encourage capacity building for those with key responsibilities related to stability and disaster response and preparedness. By strengthening their knowledge of the environmental trends in the region and their understanding of the implications such trends may have for local and regional security it may be possible to develop whole of government approaches to mitigating the effects of these issues that limit the spread and severity of disasters and preserve the resource base upon which nation state and human security depends. The Roundtable did just that.

Twenty five officials participated in the roundtable including the Costa Rican Vice Minister of Public Security, the Vice Minister of Environment, Energy and Technology; and the National Security Adviser; members of Academia; NGOs and international organizations; officials from the U.S. Department of Energy, U.S. Department of Agriculture and U.S. Agency for International Development.

It was soon evident that the adverse effects of climate change were having a major impact on regional security. Over the two days there was a fluid and productive dialogue among participants who pointed out the following issues:

- Climate changes should be viewed from the social and economic perspective, as well as the environmental one. Hence, other government agencies such as Ministry of Economy and Education, should be included into national efforts to build resilience;
- Environmental problems can be seen as a national and regional security threat, because they determine how long the resource base upon which the people depend can be sustained;
- Natural Disaster Response exercises facilitated by the U.S. Armed Forces, such as Humanitarian Allied Forces-FAHUM have demonstrated to Costa Rica and other regional countries the vital role the military can play in developing resilience. It is important to show the humanitarian dimension of the security forces;
- Variances in climate change exacerbate the existing tensions in the region;

- By including all applicable government agencies in the planning cycle, new strategies and policies can be developed to mitigate climate change issues and challenges, and improve the interoperability among planners and responders.
- A preventative instead of response system to create resilience to environmental and climate change is needed.
- While mitigation of carbon emissions climate change is an important issue, adaptation to climate change is also key
- Adaptation to climate change activities requires participation at the local community level
- More regional climate change research needs to be conducted; local knowledge and good science are essential to producing good policies.

## **REGIONAL CLIMATE CHANGE CONFERENCE IN 2010**

The roundtable recommended a SOUTHCOM/DoS Environmental Hub-sponsored, region-wide conference for September 2010.

- The title for the conference will be “Climate Change, Adaptation and Security: From Strategy to Action.”
- It is important to have the participation of the private sector especially experts from insurance companies, transportation, tourism and a broader cross section of the states’ interagency to include the Ministries of Education, Commerce, Security/Defense, Environment, and Health.
- Existing regional mechanisms like the Central American Integration System and its organizations i.e. the Central American Commission on Environment and Development (CCAD); the Regional Committee of Water Resources (CRRH); CEPREDENAC-Center for the Prevention of Natural Disasters (CEPREDENAC), the Caribbean Community (CARICOM), Caribbean Disaster Emergency Management Agency (CDEMA), Caribbean Environment Programme (CEP), and the Caribbean Community Climate Change Centre (CCCCC) should be considered
- A planning committee with participants from all the above named organizations, SOUTHCOM’s Engineers, the U.S. Army War College’s Center for Strategic Leadership, and DOS’ Regional Environmental Hub should collaborate to identify the agenda, objectives, strategy and the dates for the 2010 Conference

Ultimately, the conference’s desired end state is DOD assistance to facilitate the construct of an effective interagency process, and to build capacity by establishing long lasting relationships with the militaries of the region so they may work more effectively in supporting civil authority thereby preventing instability. Subsequent roundtable discussions and other climate change and disaster management venues will enhance regional governmental legitimacy and capacity to design policies that reduce threats to security in the region as the competition for natural resources continues worldwide.



## **CONCLUSION**

The Costa Rican roundtable discussion was successful for several reasons. First, by the number of participants from a wide variety of civilian and governmental organizations, it demonstrated the willingness of different regional

and local players to work jointly with the military in supporting humanitarian activities. Second, USSOUTHCOM's participation demonstrated the versatility and effectiveness of military assistance to civil authorities.

It is important to add that the DOD 2010 Quadrennial Defense Review (QDR) highlights for the first time the significant role climate change and energy will play in shaping the future security environment and refers to the link among those two issues and economic stability. The QDR establishes that, "While climate change alone does not cause conflict, it may act as an accelerant of instability or conflict, placing a burden to respond on civilian institutions and militaries around the world."

As part of the "Energy and Climate Partnership of the Americas" (ECPA), announced by U.S. President Barack Obama at last year's Summit of the Americas, the objective of the 2010 Conference will be to bring together key public and private sector actors from the environmental, public security, and natural disaster communities to examine the implications of regional climate change trends for their respective sectors. This event will also enable participants to review climate change adaptation plans and actions underway in the region and to develop customized take home action plans to mainstream climate change adaptation into their respective areas of responsibility.

The recommendations from these types of activities points out the importance of international cooperation and inter-agency coordination to address climate change issues. According to the 2008 UNDP Human Development Report, "No one country can win the battle against climate change alone. Collective action is not an option but an imperative."

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